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August 18, 1997

Dr. Joseph Boyce Research Programs Management Division Office of Space Science, SR **NASA** Headquarters Washington, DC 20546-0001

VK-99-22

04/264

Re: Final Technical Report for NASA Grant NAGW-4026

"Ion microprobe measurments of C in metal in primitive meteorites: A new approach to constraining C:O ratios in the nebular environment."

Dear Joe:

The theme of this project was to develop procedures for the precise and accurate analysis of carbon in meteoritic alloys using the ion microprobe and, by applying these techniques to meteoritic samples, to build a framework for understanding the role of carbon in the early solar system. Although these goals are consistent with those of the Origins of the Solar System program, we have decided to continue our research in this area under the umbrella of our Cosmochemistry grant, which will allow us greater flexibility in our choice of applications. During the present grant cycle, we successfully analyzed carbon in iron meteorites and have preliminary results for alloys in chondrules from unequilibrated ordinary chondrites.

A complete listing of publications resulting from this grant follows. We also anticipate the submission of a manuscript on our results for iron meteorites during the current year.

Bashir N., Beckett J. R., Hutcheon I. D., and Stolper E. (1996) Carbon in the metal of iron meteorites (abstr.). Lunar and Planetary Science XXVII, 63-64.

Please let me know if you need any further information to "close the file" on this project.

Sincerely,

**Edward Stolper** 

William E. Leonhard Professor of Geology and Chairman of the Division of Geological and

**Planetary Sciences** 

Edward Stober

D. Nava, Technical Officer

**NASA CASI**